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THE

TRIALS AND TRIUMPHS

OF

MEN OF GENIUS,

BY

JAMES SIMONTON, ESQ.

A LECTURE

DELIVERED BEFORE THE

St. Mary's Young Men's Christian Association,

LOWER DOMINICK-STREET, DUBLIN.

ON MONDAY EVENING, MAY 13, 1861.

The Rev. BENJAMIN GIBSON, A.M., President, in the Chair.

"Lives of great men all remind us
We can make our lives sublime;
And, departing, leave behind us
Footprints on the sands of time."—LONGFELLOW.

DUBLIN:
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Price Threepence.

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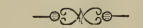
TO

THE REV. EDWARD SINGLETON ABBOTT, A.M.,

RECTOR OF ST. MARY'S CHURCH, DUBLIN,

PATRON OF ST. MARY'S YOUNG MEN'S CHRISTIAN ASSOCIATION.



Rev. and Dear Sir,

Permit me respectfully to dedicate this Lecture to you. Written with no design of publication, as deeming it unworthy of so much prominence, I yet could not refuse to obey your wishes, although I fear that your known kindness of disposition has caused you to overlook its faults and magnify its usefulness; but, as Patron of St. Mary's Young Men's Christian Association, your request was a law to me; and I can only hope that this feeble effort may derive strength for good among young men, from being sent forth under its auspices.

I remain, Rev. and Dear Sir,

Yours faithfully and obliged,

JAMES SIMONTON.

Mountain View, Sandford,
July 1, 1861.

THE

TRIALS AND TRIUMPHS

OF

MEN OF GENIUS.

Mr. Chairman and Christian Friends,

The subject which I have selected for presenting to your attention this evening is—"The Trials and Triumphs of Men of Genius;" having considered that there was no one more suited to foster and encourage emulation in the minds of the members of a society constituted for mutual improvement, nor one better calculated to awaken the deepest sympathies of our nature, than a review of the laudable efforts at self-advancement made by the most renowned individuals, who, despite of circumstances the most unfavourable, became the artificers of their own success, and raised the firm superstructure of a character which, in many instances, is indelibly inscribed on the world's history.

I do not intend, Sir, on this occasion to dilate much on the advantages of such societies as the one which you have had the privilege of founding; but when I look back and consider the pleasure and profit I have experienced from

intercourse with a similar association in this city, it makes me anxious to give an affectionate invitation to the young men whom I see around, many of whom, doubtless, are not in connexion with your society, to join one of which, I am sure, each individual member must give the most encouraging account. This is indeed a Society to which I would invite any young man wishing for improvement in religious, moral, and literary matters.

Youth, Sir, is the season for preparation: upon the way in which we employ it depends our after success or failure. Young men are the hope of the nation. When Catiline attempted his conspiracy, he began by corrupting the young men, knowing what constituted the safeguard of a nation—the virtue and integrity of its youth. Archimedes once said, if he had a lever large enough, and something on which to rest it, he could move the earth itself. Now, young men, you are, so to speak, the moral lever by which, if used aright, the masses of society can be elevated and improved. Some of you may have genius, mayhap, lying hidden and dormant; but every mind is capable of expansion and improvement to almost any extent, and it does not require genius to effect this. Though all of you may not have genius, though all of you may not have high intellectual endowments, yet all of you have some talent; and if you make the best use of that *one* talent, though you may have no literary attainments, no eloquence, no power of wielding the minds and swaying the opinions of others, you will be as accepted in the sight of God as if you had made the most of a hundred talents.

Addison compared the uneducated mind to a block of marble hewn from the quarry; but, when tutored and refined, to the same block carefully chiselled and polished by the

skilful sculptor. Even Newton, "whose star-like spirit shot across the spheres," admitted that he was not conscious of any superiority over other men, except in the power he possessed of concentrating his attention on one subject, and perseveringly working it out. It is not *how much* a man has, but how he uses what he has. It is not to the wealthy and the great, it is not to those who were born amid affluence and reared in luxury, that we are indebted for those writings which have shed a lustre on every age, for those inventions which have multiplied the comforts of society, and given such an impetus to modern civilization. No, for such we must look beyond the precincts of the herald's office. Some of the brightest ornaments of literature have burst the shackles of abject poverty, and triumphantly shown that the aspirations of the mind are not to be bound by the circumstances of station, nor by the humble pursuits of the mechanic and artisan. The enthusiastic student, thrown on his own resources, has been obliged to read by the lights in the public streets. With paper and pencil, and a string of beads, the youthful philosopher has formed for himself a chart of the heavenly bodies, and from the rudest contrivances learnt the first principles of mathematics.

The times, however, are changed. "He that runs may read." And now literary, scientific, and religious associations for young men, for the purpose of mutual improvement, and for the interchange of thought and sentiment, are universally established throughout these kingdoms. Let none of you say he has not got time for the acquisition of knowledge: no plea was ever more fallacious. Want of purpose is far more fatal than want of time. Commence at once with the work of mental improvement, while your energies are young

and vigorous, or most probably you never will. How many examples can you find of young men who had, in the words of Young, "resolved, and re-resolved, and died the same." Now, have an object—let it be a good one—steadily pursue it, and you will accomplish it, despite every obstacle. Choose one path of study, and labour earnestly, perseveringly, in that, if your desire is to rise to eminence and usefulness. Frivolous pursuits, the mere tickling of the ear, the pleasing of the eye, or the gratifying of the palate, take up far too much of the attention of the young men of the present day. What must be the mental condition of that young man who spends his leisure in lounging, gossiping, dressing, smoking, and other amusements set as traps for the butterflies of society? Knowledge and wisdom are not thus to be won: we must sow, if we would reap; we must work, if we would win the reward. Shall we bestow all our care upon the animal and grosser part of our nature, and neglect the living intellect, which is our distinguishing glory, which assimilates our nature to that of the higher intelligences?

In no state of life can any one now want for opportunities of mental cultivation; the only difficulty lies in the want of *desire.* Where is the man whose time was more occupied than was that of Benjamin Franklin, the benefactor of mankind, who has left a name imperishable in science and in history? Yet he never made the excuse that he could not find leisure for mental improvement; and why? He had a strong and unquenchable desire for knowledge; and what the mind ardently desires, it will accomplish despite of all obstacles. He observed, with regret, the time that was systematically lost by his fellow-printers and associates, for want of some rational means of occupying their leisure hours. To

obviate this he established the society which still bears his name, and which has served as a model of similar institutions throughout the American States. The secret by which the humble printer acquired such high honours as a patriot and a philosopher, was simply by acting on the motto of the painter, "*nulla dies sine linea*,"—something to show for each day. He never allowed the fragments of unoccupied time, which so many waste in frivolous or idle pursuits, to be lost; he economized them, put them out to interest, and what a glorious return did they bring him in!

If the great philosopher, Theophrastes, could say, at 107 years of age, that life was too short for the student, and that it terminated just when we were beginning to solve its problems, how much rather may we say, in the words of the great American poet—

"Art is long, and Time is fleeting,
And our hearts, though stout and brave,
Still, like muffled drums, are beating
Funeral marches to the grave;"

and that

"Not enjoyment, and not sorrow
Is our destined end or way;
But to *act*, that each to-morrow
Find us farther than to-day.

Let us, then, be up and doing,
With a heart for any fate;
Still achieving, still pursuing,
Learn to labour, and to wait."

I hope, Sir, that the observations I have just made have not been out of place in introducing this Lecture on "THE TRIALS AND TRIUMPHS OF MEN OF GENIUS." I shall speak of their "Trials," to show the laudable efforts at self-

advancement made by men to whom the world is indebted for many of the discoveries which have so much advanced civilization, extended the empire of mind over matter, and rendered the vast dominion of nature tributary to man—amid privations, contumely, neglect, reproach, and destitution, too often the fate of unobtrusive merit; and against which it had to combat with unflinching determination, and with an energy proportioned to the severity of external pressure, till at length it attained the high vantage-ground of well-earned and nobly contested victory.

Who that has ever stood upon a lofty eminence, and caught the first glimpse of the still distant city to which he was hastening, can easily forget the pleasure he experienced as he stood to look at its soaring spires and lofty domes, its splendid buildings and dense streets? Alike he forgets the dreary road behind him and the exhaustion of fatigue; the past derives interest from narration, and the pleasures of the future are enhanced by hope, by expectation, and enjoyment. From the eminence, then, to which the successive efforts of human ingenuity and perseverance have elevated us, let us take a retrospective glance at their history, as on a mighty city, whose triumphs are before us! A noble theme! The memorials of their trials rise around; the monuments of their arts and inventions arrest us; and memory recalls many a name, illustrious in art, in science, and in literature, that has survived the lapse of time and the proscriptions of hatred, to be handed to a grateful posterity as national benefactors.

Who can read, without feelings of emotion sufficient to infuse courage into the bosom of the most timid and irresolute, the early career of those renowned individuals, both

in ancient and modern times, who have owed their elevation to their own industry, talent, and perseverance, and that, too, despite of obstacles, compared to which the difficulties to be encountered in modern times sink into utter insignificance,—proving that in the humblest condition of life are to be found sterling merit and intellectual worth; and that neither the obscurity of birth, nor the humbleness of parentage, nor the lash of poverty, nor the sneer of envy, can alter the high purpose, the firm resolve; but that these can, one and all, be made so many additional incentives to honourable and useful ambition.

The dethronement of kings and the beggary of nobles are less affecting than the wrongs, the sorrows, the long-protracted trials, the forlorn condition of great and gifted minds—minds whose patents are of older date than pyramids and kings, even by the anointing of God's own hand. What tragedies can be read in the history of literature deeper than the "Macbeth," more moving than the "Lear," of the immortal Shakespeare, the poor player, driven to greatness by the deer-stalking prosecution of a Warwickshire squire. Richard Wilson, with his wondrous genius in landscape, could not make a living; and though his works now command prices as proud as those of Claude, Poussin, or Elsheimer, he resembled the last most in his fate, and lived and died nearer to indigence than ease. Fuseli, who, with all his eccentricities, was of immense talent, declared, with a wretched pun, that his name should be "*Few-sell-I.*" Von Holst was neglected; Haydon destroyed himself in despair; and we could record numberless instances of men of genius in the fine arts, who should have found appreciation where they met with neglect:—Milton, the schoolmaster, poor,

old, and blind in the porch of his humble cottage, musing on the evil days and evil tongues whereon he had fallen, meanwhile composing line after line of his imperishable epic, which he sold for five pounds;—Dryden, beaten by ruffians at the prompting of a worthless peer;—Tasso, a creature as delicately moulded as if, like the Peri, he had fed upon nothing grosser than the breath of flowers, wearing out the best years of his life in a dungeon;—Racine, hurried to his grave by the rebuke of a heartless king;—Chatterton, "the marvellous boy, the sleepless soul that perished in his pride," at midnight, homeless and hungry, bathing the unpitying stones of London with the hot tears of anguish and despair, and in the spring-time of a youth of golden promise dying by poison from his own hand, in a garret in London;—Johnson, at the age of 36, dining behind a screen at the house of Cave, because he was too shabbily dressed to appear at the table; Burns, taken from the plough, which he had followed in glory and in joy upon the mountain side, to gauge ale firkins, and watch for contraband tobacco;—and poor Goldsmith—one of those geniuses whose wit, instead of diminishing, served rather to increase his misfortunes—with all his accomplishments and powers, does not appear to have been wise or happy.

"Often a too great susceptibility of mind, an over refinement, accompanies men gifted with poetic genius, which, while it attracts us by the richness of his thought, and the melody of his numbers, too often makes him wretched: then let us, whose hearts and lips have not been touched with the live coal from the altar of Apollo, be contented and thankful that we are cast in a rougher mould. When we peruse the melancholy records of unhappy genius—when

we read of Smart writing, with a key, on the walls of a madhouse cell, his hymn to David, which embodies thought and language as sublime as ever was penned: of Cowper himself, the good and pious Cowper, over whose sad spirit hung a dark and terrible cloud—who was goaded to the last by undue remorse, and scarcely ever caught a glimpse by faith through the gloom of the glorious and eternal sunshine of the heaven that surely awaited him. Of Otway, again, who was actually choked by a morsel of charity in the greediness of his hunger: of Clare, the peasant poet, who spent long, long years in a private asylum, and died there at last: of Keats, who withered away even under an Italian sky, killed by the nipping frost of a harsh review: of Collins, who used to wander, stricken with irrecoverable melancholy through the cloisters of Chichester cathedral, accompanying the organ music with his sobs and cries. Oh! it is a dark and terrible list I have brought you to, and though I have not gone *nearly* through it, let me drop the curtain."

How many authors besides, have gone melancholy or raging mad, from the incessant action and re-action of hope, mortification, and penury, over-exciting that peculiar nervous system which so fatally appertains to intellectual men. How innumerable a mass might exclaim with Cowley, "This I do affirm, that from all which I have written, I never received the least benefit, or the least advantage!"

To what a long, melancholy list of justly admired writers, will the words of the poet apply—

> "The laurels he had won were withering fast;
> Lean Want pluck'd at them—and abortive hopes,
> Shaped into more than human misery,
> The circle sentinell'd where'er he moved!"

It is said to be a proof of greatness of mind, to dwell more on the past than the present. The man who lives only for the present hour, who takes no interest in what was said, or done, or suffered, by the generations which have gone before; who is unimpressed by ruins and monuments, records of heroes and martyrs, of fallen empires and ruined cities,—is a very narrow-minded, selfish, and miserable being. A well-regulated mind, however, does not dwell exclusively on the past, the present, or the future, but takes in the whole range of human existence. Overlooking altogether the ambitious few, who seek for mere distinction in the eyes of their fellow-creatures, as being set upon the gratification of their own little personalities, let us view the rational and cultivated man, addressing himself to the duties placed before him, and the enjoyments within his reach, and making out of these a consistent, respectable life, in conformity with the natural conditions in which he is placed by the divine rules which guide his being; and then let us turn to any one of the numberless unfortunates who abuse this inestimable possession, by sloth, folly, and wickedness. What a contrast is presented! the one so fair a scene, the other such a desolation—a Queen's robe compared with a beggar's rag; yet, what the one makes it, the other may. Each and all of us, whatever our position, may cultivate, in some degree, the grace and glory of life, and work off life's loom fabrics of enduring beauty and usefulness, which will save us from the meanness and miseries of sin.

Yet, if we were to regard greatness of mind with a leaning in one direction more than another, it would be in *thinking* of the future, *realizing* it, *providing* for it, *living* for it.

We pity the poor creature that always looks dolefully upon

the *past*, and hopelessly to the *future*, but we admire the man who bravely faces it—who braces up his energies for the work, and the trials or the triumphs it may bring—who labours hard to-day that he and his may be better off to-morrow—who lays up in summer weather a store for the winter season—who learns in youth, and acquires the knowledge that may enable him to play a useful and honorable part in manhood; but who, as well, looks beyond the grave, and seeks to lay up treasures in heaven, where nothing rusts, corrupts, or fades away. This is true greatness of mind: this is noble superiority of soul. "*Excelsior*" is its motto; it ever labours to attain *meliora*, something better, higher, nobler, happier, nearer to perfection—"*Excelsior*," that unrevealed spirit of progress—that struggling aspiration of the heart of humanity, to which the American poet has given a name, by inscribing it on the white banner. The Youth with the banner is Man, and his march is the march of one who feels that above him there is ever the unattained, but not the unattainable. He has life and faith; "*Excelsior*" is speaking in his soul and gleaming before his eyes—and his path is upward!—aye, even above the Alpine heights of living attainment, and the possibility of personal effort! "*Excelsior*,"

> "That something still, which prompts the eternal sigh,
> For which we bear to live, or dare to die."

Robert Bruce saw it living and speaking in a tiny spider, and investing that insignificant creature with the power and immortality of a thought. The man was lying on the straw, with despondency in his heart; the thought of destiny swung upon a feeble filament, from a beam above his head—"Never give up! upward," whispered the Eternal, as the

spider obeyed its instinct; its perseverance gave to a king and a nation their grandest thought—exemplifying to us the nature of the human mind, that, whatever a man of unswerving determination sets before him as a destined object, he will attain, despite of every obstacle. If he covet riches and wealth, he may have them—if he long for applause in the eyes of his fellow men, he will get it—if he desire power, he may attain it. Now, young men, set before yourselves the desire of that wealth which is beyond all price, for it will last you throughout eternity; and no thief can take away from you "the unsearchable riches of Christ." Cultivate that immortal intellect of yours, which will endure when time shall be no more, and exercise for good those thoughts "which wander through eternity."

> "If, on our daily course, our mind
> Be set to hallow all we find—
> New treasures still, of countless price,
> God will provide for sacrifice."

Oh! my friends, it is a glorious thing to see a fellow-man rising up out of the dust of humble obscurity, shaking off all shackles, and resolving bravely to climb to eminence; to see him with grand resolution in his heart, and sublime determination on his brow, conquering difficulties, breaking away stubborn barriers, and sitting down at last with the princes of men, in brotherhood with them, in the Temple of Fame!

History records numberless instances in which the ardent thirst for knowledge has achieved the advancement of its possessor, in spite of the greatest disadvantages, thus making their original obscurity their most honourable distinc-

tion. "There is no royal road to learning;" there are difficulties to be encountered, but these difficulties, as great and greater than any that can present themselves to those whom I address, have been successfully and triumphantly overcome; for men have risen from the humblest ranks of life, to fill with honour the most conspicuous stations amongst the learned and noble of the land. "From behind the counter, and out of the dingy workshop, did men go forth, strong in the knowledge of the power that was within them, and rested not till their names were graven in the annals of time, that posterity might look back on them, and learn."

Not only is the peasant oft-times a happier man than his prince, but more *true* greatness comes from the cottage than the palace. What but genius, combined with perseverance, could have rescued those ancient authors, whose works afford us such pleasure, from absolute helotism; for it is well known that Æsop the fabulist, Terence the comic poet, and Epictetus the Stoic philosopher, were originally slaves. Socrates, "the man of uncorrupted virtue," worked with his father as a statuary, and, with chisel in hand, had learnt to grave the stone into a figure, ere he knew how to reason with philosophers in the schools. He had to die to be known, and his death can be looked upon in no other light than that of a penalty for his purer, loftier, diviner virtue. Homer, the greatest and first of epic bards, the father of Grecian poetry, who has left an immortal name, was a beggar, and now

> "Seven wealthy towns contend for Homer dead,
> Through which the living Homer begg'd his bread."

Demosthenes, the thunderer of Greece, the master of

argument, and the prince and model of succeeding orators, was the son of a cutler. Virgil, the most excellent of the Roman poets, "the most accomplished genius" (says Sir William Temple) "that the world has ever known," was the son of a barber. Linneus, the founder of the science of botany, was a shoemaker. Luther, "the monk that shook the world," came up from the dark deep mines at Mansfeld to be the head and leader of a movement only second in importance to the introduction of Christianity, to be the liberator of human thought, and the restorer of universal liberty in modern times.

Richardson, the author of "Pamela," "Clarissa Harlowe," "Sir Charles Grandison," and other works—whom Dr. Johnson styles as "an author from whom the age received great favors, who enlarged the knowledge of human nature, and taught the passions to move at the command of virtue"—was wont, in the humble capacity of a printer's apprentice, to buy his own candle, that his master might not be defrauded, and steal an hour from sleep to improve his mind, and lay the foundation for future literary fame.

The author of "Lorenzo de Medici," surrounded by the dry dust of a lawyer's office, and with nothing more than the rudiments of a common education, rose to the highest eminence; while Morrison, the Chinese scholar and missionary, laboured at the trade of a last and boot-maker, and kept his lamp from being blown out by so placing a volume of Matthew Henry's Commentary, as at once to guard the flame, and make it easy for him to lay up the contents in his memory.

Ben Jonson, the dramatist, worked for years as a bricklayer and mason. The celebrated John Hunter, one of the

greatest anatomists that ever lived, scarcely received any education until he was twenty years old, and then obtained a situation in the humble capacity of an assistant in a dissecting room, from which, by the unassisted force of his own genius and industry, he ascended to a position of the highest eminence in the medical profession. Beranger, the celebrated French lyric poet, neglected by his vagabond father, lived with his godfather, a poor tailor, and was a *gamin* on the streets of Paris till promoted for a time to the dignity of a pot-boy. Jasmin, the Burns of the South of France, was the son of a tailor, and the grandson of a common beggar. Faraday, the eminent chemist and electrician, is the son of a poor blacksmith, and began his career as the apprentice to a bookbinder. Minie, the inventor of the well-known rifle, was a private soldier.

Thiers, the well-known historian and ex-minister of France, was the son of a poor locksmith, and was educated gratuitously at the public school of Marseilles. Sir William Cubitt was a working miller, then a joiner, and next a millwright. Sir Richard Arkwright, the inventor of the spinning frame, was a penny barber at Manchester; and Stephenson, the father of railways, a working smith. Ferguson, the first astronomer of his day, was a shepherd boy, the son of a labourer in Banffshire; and Hugh Miller, with whose geological and literary works we are so familiar, was "the working mason of Cromarty." To the list we may add Davy, and Herschel, and Hayne, and Romilly, with many others whose names are as "familiar as household words," who rose by their own exertions from the humblest walks of life; and their career should well stir up the earnest spirit of youth to fight the battle of life, whatever their position, with energy and vigour. And

if we come down to the present day, we might tell of the humble walks from which rose almost every noted man of the hour. By the force of their genius, industry, and integrity, we have seen the son of a Newcastle coal merchant Lord Chancellor of England; and the same post in this country is now filled by a man of equally humble origin. We saw the son of a Scottish clergyman the Attorney-General of England; and the descendant of a cotton spinner the Prime Minister of our Sovereign.

It is difficult to say with precision what genius is—it may be described, scarcely, perhaps, defined. Perhaps we may say that it is the power of invention—of producing excellences which are out of the reach of the rules of art—a power which no precepts can teach, which no industry can acquire—a power which penetrates the deepest recesses of nature, and produces either new ideas or new combinations of ideas, which at once please and astonish mankind. It is not one thing, nor is it many things, but it is the one subtle result of a number of causes, blended into harmony and completeness. It has often been confounded with other powers, which bear to it a certain resemblance, and play under it a subordinate part; too frequently the glittering sheath has been mistaken for the flaming sword. Cleverness, talent, taste, imagination, passion, and the fumes of physical excitement, have all, at one time or other, been mistaken for the genuine inspirations of this rare and precious gift. But we may distinguish genius from cleverness, as easily as we can the copy from the original, or the base and counterfeit from the sterling coin. Neither is it mere talent—by talent we mean the power of acute and vigorous thought, which is only an attendant in the train of genius, or a pioneer to smooth

the inequalities of its dim and perilous way. Cleverness copies, Talent combines, Genius creates. Again, *taste* is not genius: taste may be defined as a lively sense of minute beauties and minute defects in works of art; there are numberless instances of men of *taste* who possessed no genius, and men of *genius* who possessed but little taste. Milton, for instance, preferred his "Paradise Regained" to his "Paradise Lost." Burns, we believe, thought more of his high-flown, artificial letters than of his immortal songs. Wordsworth was in happy blindness of what his greatest admirers admit—the inanity of his lyrical ballads. One man thinks one colour beautiful; another, the contrary—one man is strongly moved with the roar of the ocean; another loves sunshine on the bosom of a glassy lake. The same man is not constant in the objects which excite in him emotions of beauty or sublimity. This is expressed by Byron in his beautiful lines on the lake of Geneva—

> "Once I loved
> Torn ocean's roar, but thy soft murmuring
> Sounds sweet, as if a sister's voice reproved,
> That I with stern delights should e'er have been so moved."

And, doubtless, you all have heard the story of Newton, who, after perusing Milton's great epic, laid it aside with the remark, "It proves nothing;" from which it has been inferred the great mathematician and astronomer was deficient in taste. But, perhaps, his error lay in not discerning what that marvellous poem did prove—in not perceiving the sublime moral lessons scattered over its every page. Probably no new principle is demonstrated in it, but every book like the "Principia" cannot be expected to contain a discovery such

as that of gravitation: still, who will refuse to admit that "Paradise Lost" has been of service to the Christian religion, or that its author has fulfilled his own "high purpose, and justified the ways of God to men?"

Genius, again, is not mere *imagination*: all great works of genius have a moral and a meaning, whereas mere imagination may be found disconnected with both. Mere imagery is as worthless as the fallen blossoms of the apple-tree, which are a lovely promise of fruit, but a poor substitute for it. Neither is the mere expression of passion genius—*genius* supposes strong *passion*. Far less should it be confounded with the fumes of physical excitement. Its fury is not (to use the words of Milton) "the trenchant fury of a rhyming parasite." It is not to be evoked from the fumes of wine, but by devout prayer to that Eternal Spirit who can command his seraphim to take a live coal from the altar, wherewith to touch and purify the lips of his chosen. Genius is a spirit too ethereal to be extracted from the narcotic weed, or liquorous distillation, or any such compound as oozes from the bruised poppy. Often indeed has this haughty power condescended to call in such auxiliaries to its aid; but *seldom* without loss, *never* without *danger*, and *often* with the absolute slavish and irremediable subjection of the higher to the lower influence.

Let the case of Coleridge—who, like the genie in the Arabian tale, could be shut up in the iron pot, though his freed stature reached the sky, and who voluntarily enclosed his stupendous powers in a laudanum phial,—stand a perpetual lesson to all to beware how they tamper with such tyrannous enslavers. How many turn to that foul fiend, brandy, which has been the cause of misery and death to so many men of

genius! We regret the errors of Addison and Steele, of Mozart, Fielding, and Sterne. We sigh at the recollection of poor Morland, working at his last picture with his brush in one hand and a glass of brandy in the other, for he had then arrived at that terrible condition in which reason could visit him only through the medium of that demon which enthralled the brilliant souls of Maginn, of Sheridan, of Charles Lamb, and which sent the once stalwart form of Theodore Hook, a miserable wretched skeleton, to a premature grave.

Doctor Johnson was for a time one of these, and drank large quantities of wine, for the temporary relief it afforded; but he saw the frightful precipice on which he stood, and by an effort which few have had the fortitude to exert, threw it aside, and took, as a substitute, strong tea. Burns wrote his earlier and best poems on the regimen of porridge and milk. Cowper found a sufficient stimulus to his mild but powerful genius in tea—the cups, he said, "which cheer, but not inebriate." Wordsworth sang of his lake water with a gusto which seemed to intimate it was his favourite beverage—Milton, stateliest of the sons of men, only a little lower than the angels—and Shakespeare, the gentle Willy—and Pope, the poetic bard, found in *music* an excitement richer and more ravishing than was ever extracted from the blood of the grape.

What, then, is genius? It is a faint degree of that prophetic inspiration, which, "to the rapt eye of the ancient seer, made the future present and the distant near." *It is the force* of that living fire which Heaven communicates to its chosen. *It is a voice* from the depths of the human spirit. *It is the utterance,* native and irresistible, of one "possessed"

by an influence, which, like the wind, bloweth where it listeth, comes he knows not whence—goes he knows not whither. Man, under its influence, is a "maker," working out creations of his own—declaring more or less distinctly the will of the unseen Lawgiver seated within his soul—he is a string to an invisible bow, a pen guided by a superhuman hand—a trumpet filled with a voice, which is as the sound of many waters. It is great, for it vanquishes greatness—it is mighty, for it includes sciences the most occult, and talents the most perfected—it is unlimited, for it lights the possessor to the most exalted efforts of man. It inspires the orator to bear the minds of his hearers whithersoever he will. It enables the artist to guide his brush to the consummation of all that is beautiful in idea or bold in imagination: from it Raphael borrowed the sublime traits of his Transfiguration, and Michael Angelo the sombre touches of his Last Judgment. It gives us him whose genius and poetic spirit are embodied in the stone, and from the shapeless block of granite or of marble the chisel of the sculptor picks out the form replete with truth and beauty—by it Phidias found the head of his Olympian Jove, and Praxiteles his Grecian deities. Alike from this common source issued the terrible, the graceful, and the sublime, in the scenes of Shakespeare, the strains of Spenser, and the stanzas of Dante; and, far from being confined to the production of poetry, it is the soul of all true and high philosophy. It has struck the sparks of all great inventions—to it we owe not only the "Iliad," the "Paradise Lost," the "Task," the "Excursion," the "Childe Harold," the "Waverley Tales," but the Telescope, the Mariner's Compass, the Printing Press, the Steam Engine, and the Galvanic

Battery—so that its influence may be said to be co-extensive with the family and the history of men. Galileo slumbers in death, but astronomers, when gazing on the heavens, still feel as if he were beside them. Two thousand years have rolled away since Archimedes demonstrated the simple mechanic powers which now work the complicated machinery of our factories. Faust is but a shadow and a name; but his genius still presides over the press as it is throwing forth its sheets replete with truth and eloquence. Watt is now, after a long life, at rest, but his genius is working the thousand pistons which are plying in the rivers or on the bosom of the deep. So with the rarer and stranger genius of the philosopher and the poet. The Blind Bard, who, "on the Chian strand beheld the Iliad and the Odyssey rise to the swelling of the voiceful sea," still, after seven and twenty centuries of years, is listened to with reverence, and the soul of Homer is born again in every school-boy who devours him. Plato, down the dark avenue of centuries, still speaks with a tone of authority, and though his works are read perhaps by not more than twenty persons at a time in the whole earth, yet, says Emerson, "for their sake they come duly down to us as if God brought them in his hand." Shakespeare's dust is in Stratford-upon-Avon—the imperishable produce of his genius still is lighting the stages of the world. Scott lies sleeping in Dryburgh, but his works have wings, and where is the spot so sacred, or the isle so insulated, which they have not visited?

The man of genius has his day, his place, his work; and having *successfully* fulfilled his sublime mission, by impressing upon his age those characters which can never be effaced, and giving to the world the most imperishable results, he

goes down to his grave amid a nation's tears and benedictions. We say *successfully*, for whoever does not succeed is of no use in the world, leaves no great results, and passes away as if he had never been. The moment that a man becomes possessed of the spirit of his times, and realizes the fact that Heaven designs him to be the representative of any one particular object—the moment that he becomes conscious of the power within him being derived and representative, then follows the most earnest, the most intense devotion to his purpose—he must succeed. A man of genius consults

> "The oracle within him,
> The *living spirit;* not dead books, old forms,
> Not mouldering parchments, must he take to counsel."

The difficulties and impossibilities of other men do not enter into his calculation. The faith which inspires his mind gives tone to his voice, nerve to his arm, and soul to his deeds—no doubtful or pusillanimous doings make up his life—there is no halt in his step, and no turning aside from his purpose, but an eager and earnest pressing towards the goal; and, filled with this sublime inspiration, he so prosecutes his object as to make his every foot-fall that of the man who knows he has a mission to fulfil and a work to do, and that, in fulfilling the one and doing the other, he seeks not his own glory.

The love of God involves the love of the True; and whoever stands on the side of truth, no less prepared to fight its battles than to share its triumphs, cannot but be a heroic man.

What can we call the strife and the struggle of all higher life but the continual effort of truth to free our world of

whatever is wrong in principle and false in action? and hence the martyrs to truth have been many and most illustrious. They fought, not so much for the principles of freedom, as for the freedom of principle. To be left free to think, and equally free to give utterance to thought, is a good for which the noblest of our race have prayed, and wrestled, and bled—a boon which has come down to us as a blood-bought inheritance, and which ought to be dear to us as our own souls.

Has not Christianity had its heroes and its sufferers? Fierce have been the blasts which assailed them, relentless the fury that incited, impetuous the torrent that carried forward the instigators of those deeds with which the historic page is blackened; but over them all has Christianity been triumphant. Read the history of an Ignatius, a Polycarp, an Origen, or an Irenæus, who nobly triumphed over persecution at an early period of the Church's history; or come down to the seventh and eighth centuries, and peruse the history of the Paulicians, who suffered persecution, with the most sanguinary severity, from the Greek emperor, 100,000 of them being extirpated by the sword, the gibbet, or the flames. Then the history of the long-tried and sorely-persecuted Waldenses and Albigenses—then the persecutions of Francis I. against his Huguenot subjects—then the history of the massacre of St. Bartholomew's day, when 60,000 Protestants were cruelly butchered, that they might bequeath to posterity those liberties, and privileges, and blessings which the Bible and the Bible's God intended all men should enjoy!

Has not Science had its martyrs, though, in its conquests, no captives are dragged from their homes, and tied to the

chariot wheels of the triumphant philosopher? But there are men of self-consuming zeal, whose devotion to study is maintained at the risk of life, like Galileo, sickening in his dungeon for maintaining that our globe was not the centre of the planetary system; whose noblest discoveries were the derision of his contemporaries, and even denounced as crimes which merited the vengeance of Heaven. He was the victim of a cruel persecution, and spent some of his latest hours within the walls of a prison; and though the Almighty granted him, as it were, a new sight to discover other worlds in the obscurity of space, yet the eyes which were allowed to explore them were themselves doomed to be closed in darkness.

Yes! the martyrs to Science have been many and most illustrious, from the time of Pliny the Elder, whose death was caused by his over-zealous observations of Vesuvius, to that of Lord Bacon, the father of experimental philosophy, who died the martyr of an experiment—to that of Columbus, the discoverer of a world, who was left to languish in neglect, in poverty, and in pain, till his noble spirit, shaking mortality off, took its flight to a sunnier, happier land, where Christian faith and suffering are rewarded with endless life and joy—and down, later still, to the last sad stories of privation, of famine, of fatigue, and cold, endured by the last discoverers in search of the remains of Sir John Franklin and his ill-fated crew. These men realized the words applied by a brother poet to Henry Kirke White—"He nursed the pinion which impelled the steel." The tenacity with which we cling to existence is strong, but we do not hesitate to affirm that, in the master minds of genius we have enumerated, the love of knowledge, when associated with renown,

is still stronger. Would Milton, for a paltry addition of twenty years to his span of life, have sacrificed the superb visions which crowded thickly on his soul when he meditated his great epic, and gave it to the world, in the proud consciousness, as he said, "that posterity would not willingly let it die"? Would Newton have changed ages with Methuselah if his 969 years had cost him the glory of being the discoverer of gravitation? Would Byron, though sceptical of another world, have "ripened hoar with time," and for this have been contented to go down to the dust, leaving no name which made an epitaph? Would Franklin have sacrificed his fame as the man "who sketched the constitution of a continent with one hand, while, with the other, he drew the lightning from the clouds," for *ages* of inglorious ease? No! the love of knowledge, when associated with renown, is stronger than life—

> "But strew his ashes to the wind,
> Whose sword or voice has served mankind;
> And is he dead whose glorious mind
> Lifts thine on high?
> To live in hearts we leave behind
> Is—not to die."

Has not Patriotism had her sons, who have bled for their country's weal? "Whose heart does not beat high with ardour, perusing the stories of those who buckled on their armour, and used it well for their country's weal? How Howard of Effingham scattered to the winds of heaven the seven-mile crescent of the Spanish Armada. How Hawke cut out the Brest fleet from the rocks of Brittany. How Nelson threw fresh haloes round the British flag—

> 'When to battle he went forth
> 'Gainst the might of Denmark's crown.'

How Collingwood led his ships into action at Trafalgar, while, from the old Victory, the great hero of that glorious day hung out the immortal signal—

'England expects that every man this day will do his duty.'

And nobly was it done, for it was while standing on the poop of his vessel, amid the heat and fire of severe combat, that Nelson received his mortal wound; and being afterwards reassured that the day was in favour of his country's flag, he breathed out his spirit with the words on his lips, 'Thank God, I have done my duty!' Or, again, how Marlborough and Peterborough gathered laurels on many a bloody battle plain of Europe. How Wellington found a wreath under the hot sky of India, and won his coronet among the hills of Spain, and strengthened his fame for ever by the victory at Waterloo. How, on that red field, the Duke of Brunswick fell at the head of his Black Hussars; and Picton, too, in front of the Fighting Fifth.

"Ah! these are the potent chronicles which help to keep British warriors what they are—which steel their hearts and strengthen their hands in the day of battle—these are the chronicles which bore great fruit the other day on the rugged hills of the Crimea, and the parched plains of India. When we read of Brown and Campbell on the heights of Alma, where triumphant proof was made of the powers of British hearts and the metal of British bayonets—of Cathcart, who fell before the 'thin red line' on that awful Sunday morning at Inkerman—of Cardigan at the charge of Balaklava—

'When, into the jaws of death,
Rode the six hundred'—

Of Vicars, the Christian hero in the trenches, and Massey

at the Redan. And later still, in another and far off clime, of Lawrence, the hero of Lucknow; and Havelock, 'the real relieving officer,' and his forced marches to the rescue, under a tropical sun, and his pitched battles day by day; and, *not least*, his fortitude against the last great enemy, whom he grappled with alone upon his bed of pain, and conquered in a strength that was given him from above. Such records as these are bulwarks of a nation; as the noble, who looks back with pride on a long line of honourable forefathers, shrinks from tarnishing his ancestral escutcheon, so the sons in arms of men like these, have, in their chronicled examples, a strong incentive to keep still bright and speckless the armour of their country, and never to suffer the name of Briton to be coupled with contumely."*

And has not Liberty had those who have nobly fought in her defence. Neither few nor faint are the hearts which have beat faithful to freedom and to truth. When we read of the heroic valour and self-sacrifice of a Wallace and a Bruce in Scotland, a Washington in America, a Tell in Switzerland, a Kosciusco in Poland, a Kossuth in Hungary, and last, not least, of a Garibaldi in Italy—that illustrious warrior whose glorious deeds recall all that history or poetry can relate—deeds which will outlive the years of time—

"He's true to God who's true to man. Wherever wrong is done
To the humblest and the weakest, 'neath the all-beholding sun,
That wrong is also done to us, and they are slaves most base,
Whose love of right is for themselves, and not for all their race.
God works for all. Ye cannot hem the hope of being free
With parallels of latitude, with mountain range, or sea.
Put golden padlocks on truth's lips, be callous as ye will,
From soul to soul, o'er all the world, leaps one electric thrill."

* Rev. Mr. MacNamara on Biography.

The most accursed among men is the traitor to Humanity. The noblest thing in this our world is Man. What can we substitute for those sympathies and aspirations, those words and deeds which make man really and truly man? Things exist for man, and not man for things. He wills that they should be, or he wills that they should cease to be.

The toil that would gain renown must be patient, self-denying, enduring. All enterprise involves labour, and the labour of enterprise is often the most humbling and most mortifying. It calls for earnest hearts and strong, and they who undertake it must have faith in God, faith in truth, faith in themselves; they must confide themselves to the genius of their age; and, believing that Heaven is working in them and through them, must carry themselves boldly in the face of all opposition.

But, of all sorts of genius, that exhibits the most penetrating and watchful philosophy, which, out of the simplest incidents of every-day life, extracts new and important truths, simply by its new manner of looking at them. There is Newton, under the apple-tree, discerning the law that keeps the sun in his sphere and the planets in their orbits. There is Galileo, in the church at Pisa, his eye fixed on the swinging chandelier, meanwhile—happy moment for the world—his spirit lights on his famous theory for measuring the flight of time. And there is Watt, the mighty master-mind, to whom we owe the obedient ship that ploughs its course through the mighty deep, defying wind and tide, and the mighty engine that rushes on its resistless career—changing the condition of society by what seemed listless idleness, taking off the lid of the boiling kettle and putting it on again, holding sometimes a cup and sometimes a spoon over

the steam, and counting the drops of water into which it became condensed.

However void of practical utility any discovery may at first appear, it is impossible to tell to what important results it may eventually lead. Who could have foreseen the marvellous results of steam machinery, from the steam issuing from the kettle—that it could subdue the winds, that it could breast the waves, that it could raise the weight of mountains, that it could imitate and surpass the most delicate manipulations of the human hand. Who could have foretold an acquaintance with the minutest wonders of the heavens, from the child of a spectacle-maker amusing himself with convex glasses; or the illumination of our towns from burning a piece of coal in the bowl of a tobacco pipe?

And more—the man of literature and genius lives in every age, is confined to no soil, and exists for ever in the memory of man. It is asserted, on classical authority, that the true greatness of a nation is to be calculated from the number of its great men—nor is this any figurative exaggeration, but a literal and unquestionable truth. A people may possess a commerce so extensive that each wind will carry some sail with rich freight to its destined shore, but the histories of Phœnicia and Carthage furnish us with ample proof of how soon it may take wings to itself and flee away, leaving not a trace of its existence behind. The warrior's deeds shed but a feeble lustre, and often live but in history's curse, whilst the works of the chisel and the pencil corrode and fade beneath the desolating hand of time; but the choice thoughts of superior minds, treasured up in books, know no decay; they flourish in perennial beauty and verdure, and are as undying in their influences

as the living intellects from which they sprang. In the words of the poet:—

> "Thrones fall, dynasties change, empires decay and sink
> Beneath their own unwieldly weight—
> The imperishable mind alone survives all meaner things."

See, Sir, what a great and important good has thus been achieved for one of the sister kingdoms. Scotland, at the beginning of the last century, was a poor and unknown country—but her philosophic Smith pointed out to her, from the retirement of his closet, the source and means of "The Wealth of Nations;" and, by his guidance, the enterprise of her hardy sons soon caused the streams of commercial opulence to flow through the land. The traveller knew not of anything worth visiting in all her wild and romantic scenery, but no sooner had the "Minstrel of the North" attuned his lyre to sing of her mist-clad mountains, her romantic vales, and storied lakes, than crowds from every quarter flocked to see a country hitherto unknown: roads were opened to localities hitherto impassable to any but their own mountain inhabitants, and every spot teemed with the reminiscences of olden time. Benefit has thus accrued not only to Scotland but America, for a certain writer has calculated that the number of persons employed in sending forth the writings of Sir Walter Scott, paper-makers, book-binders, printers, &c., would, if collected together, form a community sufficient to fill a large town.

The potteries of Etruria, in Staffordshire, would never have existed had not Mr. Wedgwood introduced into the manufacture the forms of Grecian art bequeathed by the taste of 2000 years ago, and thus created a demand which has furnished profitable employment to thousands.

While speaking of the potteries, I cannot better illustrate some of the Trials and Triumphs of Genius, than by a short extract from an Essay I delivered a short time ago on the "Life of Bernard Palissy, the Potter," showing his perseverance in the production of enamelled pottery from native materials in France, now strikingly commemorated in the kind of ware peculiar to that country, and known as Palissy ware.

The scene is a London auction-mart, and the sale has just commenced. The lots consist of curiosities and articles of *vertu;* and after one or two have been disposed of, the master of the hammer puts up a small lot, marked in the catalogue *unique and costly.* It consists of a few specimens of a peculiar kind of pottery—a large vase, a candlestick, and some smaller ones. They are eagerly watched and hotly bid for. The owner of the vase rejoices at the prize which has cost him nearly sixty pounds, while he who wins the candlestick for twenty, is hardly less happy. This ware was made 300 years ago, the work of a Frenchman, who, inspired by genius, fought his way to the mastery of an art then unknown in Europe, except among the Italians. This self-taught potter was born at La Chapelle-Biron, at the commencement of the 16th century, of poor parents, who could but barely have him taught reading and writing. A land-surveyor who came to that part of the country remarked the boy's quickness, and the attention with which he watched his operations, and by his parent's consent took him away to teach him his business. Nature had implanted in him a love of the beautiful, which became his teacher; in the intervals of employment he was much given to the study of the Italian masters; he was delighted to paint images

and designs on glass, and, as his name became known, he was commissioned to adorn churches and the castles of the nobles. Meanwhile he became acquainted with the chemistry and mineralogy of his day, such as it was: he did not, however, profit so largely as he might have done by the state of knowledge in his time: he had the failing, so common with practical men, of inveighing against theory; and had he consulted those who were qualified to inform him of the true principles of physical and chemical sciences, he might have been spared much painful toil, and many abortive experiments. One day, a beautifully enamelled cup, which had probably been made at Faenza, in Italy, fell into his hands; struck with its beauty, he set about inquiring into its mode of manufacture, and the secret of its composition, especially the enamel. He undertook a course of experiments on the subject, but without success: he burnt the clay itself, mixed it with various ingredients, covered it with ever varying preparations, and tried them, with renewed hopes, in the furnaces of glaziers and potters, but without success. He then built a furnace for himself, which he ultimately demolished and rebuilt, for this he found would be his main dependance.

In those days a man of genius placed so greatly in advance of his neighbours, was almost sure of being suspected of sorcery, and Palissy's friends began to look on him with terror; others imagined him to be a coiner of false money; and others thought him insane.

The desire to master his object had, however, now taken such possession of him, that for several years he devoted nearly all his time and means to its pursuit, in spite of the claims of his wife and family, and the remonstrance of

his friends. He has described with bitter feeling the conflict in his own breast at this time: yet he bore outwardly a cheerful countenance, and strove to inspire his family with the confidence he himself felt, that he should one day place them in affluence by his success, and thus overpay them for all the privations they were enduring. Fifteen years thus passed away. Palissy was still firm in his conviction, yet had not succeeded, for nothing short of producing enamel in all its perfection would satisfy him. One day, when he thought himself on the point of attaining the object of his life, a workman, on leaving him, demanded the wages that were due to him. Palissy had no money, and paid him with the few clothes he had left. He had now to work alone—to prepare his colors, to make vessels suitable for his purpose, and to heat and watch the furnace which his own hands had made. Once more he was on the verge of success; for more than a month he worked night and day in preparing "that beautiful enamel," and six days and nights he watched and fed the fires of his oven, in which he had placed a vase, on which his hopes were centered: the fire burned low, but no sign of melting: anxiously he watched, and ran for wood to feed the flame—it was all consumed—he had neither fuel nor money to purchase it. He stood for a moment overwhelmed with despair—there was no time to be lost—"now or never" thought Palissy; rushing into his garden, he tore up the trellis-work that supported his fruit-trees, broke it in pieces, and heated his furnace. Up sprang the flame, and then came the deep-red glow which promised the realization of his hopes. Again the fire was nearly exhausted; half-frantic he rushed into his house, and broke into pieces his chairs and tables, then the door,

next the window-frames, and at last, tearing up the very flooring of his little dwelling, consigned it likewise to the flames to feed the double-mouthed furnace. This was Palissy's final effort, and his triumph. His resources, and the demand upon them, are at an end together—the enamel is melted. He shouted with joy as he showed his wife and children the vase he had just taken out of the furnace: it was bright with the imperishable colors that, till then, he had only seen in dreams, since he had first beheld the cup of Faenza. "Another such victory, and I am undone," was the exclamation of Pyrrhus after a battle with the Romans, and in such a spirit might poor Palissy have spoken of his hardly earned triumph.

He had now discovered the composition of various enamels, and it was not long before his beautiful works found their way into all parts of France. The King sent for the Potter to Paris, gave him apartments in the Tuileries, with a patent, which set forth that he was the inventor of a new kind of pottery; and, under the patronage of the King, the Queen, Catherine De Medici, and the Duke of Montmorency, Palissy rose to eminence and fame. It is to him France owes her high rank in the Ceramic art: he must be admired as much for the beauty, as for the utility of his discovery. He wrote, though he knew neither Latin or Greek, in a style which reminds one of Montaigne. In his "Treatise on the Art of Pottery," he tells the sad story of his twenty years' anxiety, labour, and privation, with touching truthfulness; the unparalleled difficulties he encountered, the sacrifices he made, the sufferings he endured, and his obstinate perseverance, amounted to a sort of heroism. He tells us, in words of religious truth, the mainspring of his hope through-

out this long probation. "I have found nothing better," he says, "than to observe the counsel of God—his edicts, statutes, and ordinances; and, in regard to his will, I have seen he has commanded his followers to eat bread by the labour of their bodies, and to multiply the talents he has committed to them." The heroism Palissy showed in the pursuit of his art, he evinced in his religious faith, and on Sunday mornings he would assemble four or five simple and unlearned men for religious worship, and exhort them to good works. Such was the beginning of the Reformed Church of the town of Saintes. The small beginning grew—"the little one became a thousand," and, after a time, Saintes was largely leavened with the purifying doctrines of the Gospel. Sometimes the members of the little church stole at dead of night to the secret rendezvous, but the days grew brighter, and, as Palissy tells us, the fields and groves of Saintes echoed with the sweet voices of virgins, who delighted to sing of all holy things. The storm came at last, however; it swept over Saintes, and Palissy's home did not escape; he was seized at night by the fierce opponents of the Reformers, and hurried to a dungeon. If this had happened in his days of unsuccessful toil, Palissy's name would have been quickly entered in God's Book of Martyrs. He would have perished on the gallows, but that his country might thereby lose his valuable art. He recovered his liberty by the intercession of the Constable of Montmorency with the Queen, and through the same powerful protection, Palissy escaped the massacre of St. Bartholemew's day. He, however, thus escaped unscathed to endure greater sufferings. In his ninetieth year, he was again accused of heresy, and being a conscientious Protestant, refusing to renounce his opinions,

he was thrown into the Bastile, where, to the eternal disgrace of the monarch, and the priests of his country, whose art he had so signally ennobled, he was detained till he died at little short of a hundred years of age, because, as he said to his monarch when he visited him, "your whole people have not the power to compel a single potter to bend his knee before the images which he has made."

The high moral firmness and unshaken rectitude of Bernard Palissy must ever command the admiration of mankind; no example can be found of one to whom the following lines of Horace, translated by Francis, are more truly applicable.

> "The man, in conscious virtue bold,
> Who dares his sacred purpose hold,
> Unshaken hears the crowd's tumultuous cries,
> And the impetuous tyrant's angry brow defies."

It is foolish and unphilosophical to conclude, because the practical application of a discovery is not immediately perceived, that therefore it ought to be abandoned. Such would require the possession of higher faculties than ever have been enjoyed, even by the loftiest intellects that have graced the walks of philosophy; it only rises gradually from its first state by the successive labours of innumerable minds. "Perfection," says the poet, "is too fair a flower to blossom in such a world as ours;" and hence it is, that those discoveries in science, which are of the greatest importance to man here below, have only been applied in all their extent of usefulness after minute and oft repeated examination, and that, from the most unpromising beginnings, the most useful productions of art have sprung. "Who," says Johnson, "when he saw the first sand or ashes, by a casual intenseness of heat, melted

into a metallic form, rugged with excrescences, and clouded with impurities would have imagined that in this shapeless lump lay concealed so many of the conveniencies of life, as would in time constitute a great part of the happiness of the world. Yet by such fortuitous liquefaction was mankind first taught to procure a body at once in a high degree solid and transparent, which could admit the light of the sun, and exclude the violence of the wind, which could extend the sight of the philosopher to new ranges of existence, and charm him at one time with the unbounded extent of the material creation, and at another with the endless subordination of animal life; and, what is yet of more importance, could supply the decay of nature, and succour old age with subsidiary sight.

"Thus was the first artificer of glass employed, though, without his knowledge or expectation, he was facilitating and prolonging the enjoyment of sight, enlarging the avenues of science, and conferring the highest and most lasting pleasures, enabling the student to contemplate nature, and the beauty to behold herself."

If a practical mechanic combines, with experience in his trade, scientific sagacity, he may make a discovery which, we have every reason to believe, without his aid, would never be made familiar to the world. Look at the telescope. In spite of all the improvements on that instrument furnished by the genius of that father of science, Sir Isaac Newton, of Hooke, of Huyghens, of Euler, and of other numerous learned astronomers, it was accompanied with imperfections that seemed insuperable. It was believed that the refractive power of glass had an inherent imperfection that could not be removed by the utmost ingenuity of man.

Astronomers were therefore contented with looking at objects through the telescope in indistinct and confused forms, and tinged strongly with the several prismatic colours. The removal of this defect was reserved for—whom? Why, a man who had been originally a silk weaver, and was afterwards the well-known optician of London, the sagacious, the famous John Dolland. For the invention of the achromatic telescope, Dolland has been a greater benefactor to the human race than may be fancied at the first glance, for on the excellence of the telescope depends the progress of astronomy, and on the accuracy of observations in that science depends the advance of navigation. To the progress of the triumphs of genius in this latter science we will now turn our attention.

There was a time when the savage could not venture out of sight of shore, but cruised along the coast of his native island in the rude raft hollowed out of the trunk of a tree, and deemed it impossible to brave the rage of the stormy ocean far from land, and beyond the reach of assistance; but now, a seaman, guided by principles laid down by the great minds that have directed their mathematical powers to the study of astronomy, such as those of Newton and Laplace, measures the moon's apparent distance from a particular star, turns to a page in the nautical almanack, and by a calculation directed principally by this table, can determine whereabouts he is on the broad ocean, though he may not have seen land for several months. Sir John Herschel, a mathematician of our own times, who has united to the greatest scientific reputation the rare desire to make the world of science accessible to all, has given an instance of the accuracy of such lunar observations in an account of a

voyage of 8000 miles by Captain Basil Hall, who, without a single landmark during eighty-nine days, ran his ship into the harbour of Rio, as accurately and with as little deviation as a coachman drives his stage into an inn-yard. If the mariner's compass had not been invented, America could never have been discovered; and if America and the passage to India by the Cape of Good Hope had never been discovered, cotton would never have been brought to England; and if cotton had never been brought to these countries, we should have been as badly off for clothing as were the people of the middle ages.

And this brings us incidentally to consider the Trials and Triumphs of Genius in the arts of spinning and weaving, which appear amongst the earliest inventions of our race. They are mentioned in the Scriptures, in the Homeric poems, by Herodotus, Pliny, and other early historians. Yet, strange as it may appear, in past ages we find that no mention is made of any improved process. It would appear to have been reserved to modern times and to the people of Lancashire to subvert the old rustic contrivances, and to substitute the mechanical inventions of Hargreaves, Arkwright, and Crompton, as the basis of a manufacturing system. We owe it to the genius of these inventors, subsequently aided by Watt, and carried into practical operation by the enterprising efforts of other men, that the previously obscure and humble pretensions of cotton have been raised from insignificance, and invested with an importance truly national; for, along with the progress of this manufacture, our population has increased beyond any previously conceived limits, the bounds of our industrial pursuits immensely enlarged, and articles of clothing rendered cheap and abundant.

Mr. Porter, in his "Progress of the Nation," says, "It is to the Spinning Jenny and the steam engine that we must look as having been the true moving powers of our fleets and armies, and the chief support also of a long continued agricultural prosperity."

Among the results of cotton spinning machinery, the diminution of price is as extraordinary as the fineness of the fabric. The raw material is now brought from India, and manufactured into cloths in England, which, after being returned to India, are actually sold there cheaper than the production of native looms. In cotton spinning, such is the economy of labour by the use of machinery, that one man and four children will spin as much yarn as was spun by six hundred men and fifty girls, eighty years ago.

Scarcely a century has elapsed since a native of Lancashire, of very humble origin, began to devote his attention to the application of machinery, for the preparation and spinning of raw cotton for weft. In the year 1760, or very soon afterwards, a *carding engine*, not very different from that now in use, was contrived by James Hargreaves, an untaught weaver, and in 1767 the Spinning Jenny was invented by the same person.

This machine, as first formed, contained eight spindles, which were made to revolve by means of bands from a horizontal wheel. Subsequent improvements increased the power of the Spinning Jenny to eighty spindles, when the saving of labour which it occasioned produced such alarm among those engaged in the old mode of spinning, that a party broke into Hargreave's house, and destroyed the machine. He again constructed it, a second rising took place, and poor Hargreaves was driven by mobs from

place to place, till at last he died in obscurity in Nottingham, having given the property of his jenny to the Strutts, who thereon laid the foundation of their industrial success and opulence.

The *cotton* yarn produced by the common spinning wheel and jenny, could not be made sufficiently strong, however, to be used as *warp*, for which purpose *linen* yarn was employed; and it was not until another machine, invented by an individual of as humble an origin as Hargreaves, was brought into successful operation, that this disadvantage was overcome. This machine was the spinning frame invented by Sir Richard Arkwright, a man who, from the lowest station in life, being literally a penny barber in Manchester, not only raised himself to a position of rank and affluence, having realized property to the extent of half a million, but became one of the foremost founders of a new branch of national industry, and assumed the first place among the manufacturers of his country.

One steam engine of forty or fifty horse power gives motion to thousands of rollers, spindles, and bobbins, for spinning yarns, and works four or five hundred looms besides. It undertakes and faithfully discharges all the heavy work of putting shafts, wheels, and pulleys in motion—of throwing the shuttle, working the treadles, driving home the weft, and turning round the warp and cloth beams—so that one man may now do as much work as two or three hundred could have done ninety years ago.

Let us contrast this triumph of machinery over the native endeavours of Indian art. Dr. Royle pictures the native woman spinning thread for those wonderful fabrics to which the names of "dew of night," "running water," are figura-

tively applied. He describes her first carding her cotton with the jaw-bone of a boalee fish; then separating the seeds by a small iron roller, worked backwards and forwards on a flat board; then, with a small bone, reducing it to the state of a downy fleece; and finally working it into thread in the warm, moist atmosphere of a tropical morning or evening; sometimes over a shallow vessel of water, the evaporation from which helps to impart the necessary moisture. Her spindle is delicately made of iron, with a ball of clay attached, and it revolves on a piece of hard steel imbedded in another piece of clay, to avoid friction. In spite of her delicate fingers and all her old-world ingenuity, the ruthless Manchester manufacturer, with his spinning frames and Australian-grown cotton, hastens to supersede her; and so, one after another, die out the arts of our older civilization, leaving to the governed and the governors of the east the mighty task of founding a new system and new means of employment upon the wreck left by the conquests of machinery and steam.

The invention of the steam engine was an event which secured to science an eternal duration, and furnished it with auxiliary means, without which it would never have attained its present exalted position. It furnishes man with power equal to hundreds of thousands of hands and numberless horses and beasts of burden, a power which can be applied to the finest and most delicate manufactures, or by its stupendous power set weight and solidity at defiance. It renders the mariner independent of wind and tide, sets our mills in motion whether the streams be dried up by the summer sun, or frozen by the winter's cold—overcomes with ease the heaviest weights, and accomplishes the greatest distances

with the velocity of the wind. A few oscillations of the same mighty machine will bring into culture extensive swamps—adapted to manufactures, will change, in a few years, our hamlets into important cities—transferred to our ships, replaces a hundred times more the power of the rower or the sail—or, drawing in its train hundreds of travellers, with strength greater than the mightiest elephant, with velocity swifter than the fleetest courser that ever scoured the plain—the locomotive gathers up all its powers for the heaviest load, and, with increased and yet increasing speed, rushes onward with its enormous load to the destined goal; and when Mind has done its work in preparing intellectual food for thousands, it enables the printing machine to send forth the productions of thought with amazing rapidity. A splendid fellow is the steam engine—he never goes home ill from grinding poisons, intoxicated with fermented liquors, or tired with his hard week's work—he never turns out on strike, or tells hard tales of his employers—he can engrave a seal, or crush masses of obdurate metal before him. At one blow of his descending steam-hammer, as was recently exhibited at Crewe, he can shiver a butcher's block to atoms with the stroke; at the next, with the greatest precision, can shut, without breaking, the glass of our Sovereign's watch—draw out a thread like gossamer, or lift a ship of war like a bauble in the air—embroider muslin, or forge anchors, cut steel into ribbons, or surpass the most delicate tracings of the human hand.

Mechanical science is the glory of these countries and of our age; it finds expression in such works as those noble steam ships which connect the sister kingdom as with a span; or in the Tubular Bridges over the Conway and Menai, which

so easily facilitate our transit to its vast metropolis. The Britannia Bridge over the Menai Straits is justly regarded as the greatest triumph of engineering skill that these countries have ever witnessed. No one can contemplate it supported by its gigantic arms, upreared from the surging flood, without being impressed with the feeling that this mass of iron and masonry represents the mental and moral characteristics of the age. The mechanical appliances which have consummated this great work of art find in the object of their utility an exponent also of the times. Ours is essentially an age of progress and transition. We do not now build fortresses, but viaducts, whereby we make a bridge from the past to the future, from the old to the new. There is no standing still—onwards, ever onwards, is at once the motto of our intellects and our necessities.

Although the Britannia Tubular Bridge represented the most scientific distribution of material which could be devised at the time of its construction, it has since been improved upon by the same engineer, the late lamented Robert Stephenson, whose name is immortalized in the annals of fame, in the great Victoria Tubular Bridge just completed across the River St. Lawrence, near Montreal, the opening of which His Royal Highness the Prince of Wales has but recently returned from inaugurating. The Victoria Bridge is, without exception, for gigantic proportions, and vast length and strength, the greatest work of art in ancient and modern times. The entire bridge with its approaches, is just sixty yards short of two miles; it is five times longer than the Britannia Bridge, has twenty-four spans of 242 feet each, and one central span, itself an immense bridge, of 330 feet. The weight of iron in the tubes is upwards of 10,000 tons,

supported on massive stone piers. This gigantic work is on the Grand Trunk Railway of Canada, which is upwards of 1100 miles in length.

Swift, however, as is the transit of railway communication, a swifter messenger than that which traverses the 1100 miles of railway was discovered, which leaves even the mighty engine far behind. Most of you are acquainted with that beautiful production of Eastern romance, the "Tale of Aladdin and the Wonderful Lamp." He needed but to rub it to summon an almost omnipotent genie, who fulfilled his wildest desires, and whosoever rubbed the lamp had its genie equally under its control. A deeper truth than its author probably intended, or than most of his readers have discovered, is shadowed forth in Aladdin's history. Some six hundred years before the birth of our Saviour, the keen-sighted, inquisitive Greeks had unconsciously realized the dream of the Eastern legend. It was not by rubbing a lamp (although a lamp, or any similar piece of metal, would have done equally well), but by rubbing a piece of amber, that they evoked an invisible, and as they believed, living agent; which, in our hands has done more wonderful things than the genie of Aladdin's lamp did, or could have done for its possessor. The Orientals would have named this the genie of the amber, and such is the exact signification of the term we employ at the present day for the word electricity, derived from the Greek name of amber ηλεκτρον denotes *the amber science:* and have not the results of telegraphic communication outstript the wildest fiction of Eastern romance—the results of that marvellous apparatus, by which, with the aid of a few wires extended upon posts, a small galvanic battery, and instruments so simple that even a boy

can work them,—communications can be effected between the most distant points, with, literally, the rapidity of lightning! How much more it may accomplish, who, even the most sanguine, can tell?—the prospect seems to open an unknown page in the history of the human race. A few short years ago it was classed among the chimeras of the age, and yet already its tiny wires convey our message across the Straits of Dover and the English Channel, with inconceivable rapidity, to continental countries: London and Rome are within speaking distance, and man can now converse with man though a thousand miles apart. The electric cable, which has done more to bind society than all other human ligaments, already has conveyed a message across the Atlantic, animating with one soul both the Old World and the New—and preparations are now in progress for establishing it on a permanent basis between two of the most important nations of the earth.

The present age may be regarded as the most remarkable yet known. Arts and sciences were never at any former period so widely diffused as at present; every day new discoveries, inventions, and manufactures are springing up for the comfort and good of mankind, and each year reveals additional discoveries, which in their turn, enlarge the range of man's mental vision, and further progress follows. But if the beginnings of some of the inventions which are passing over us be so glorious, what will their perfecting be?

What will probably be the state of the arts and sciences in four thousand years to come, if the world should last so long, would form a curious subject for speculation. Every succeeding year the Trials and Triumphs of Men of Genius will reveal new properties in the materials which compose the body of our planet. The alchemists of old grew

pale over their crucibles in searching for the philosopher's stone, in their ardour to obtain the universal solvent which was to turn all it touched into gold; their expectations, presumptuous as they were delusive, yet revealed rich information to chemical science, which now ministers to the comfort and enjoyment of social life, and extends its sway over every species of animate and inanimate matter within the range of human investigation. Indian-rubber and gutta percha have always been elastic and extensible, but it is only of late years that their properties have been ascertained and turned to profitable account. The Peruvian Bark had grown five thousand years in Peru before the missionary discovered the tonic influence it exerts on the human system. Steam was always capable of condensation, so as to leave in its place a vacuum, but it is only a century and a half since the Marquis of Worcester thought of employing it as a motive power. Coal was burnt for upwards of a thousand years before Winsor thought of producing gas light from the black material. The sun was as capable of fastening the shadow on the plate 5,000 years ago, as lately, when Daguerre and Talbot called in the assistance of this unerring artist; and ever since our earthly ball was fashioned, electricity has been able to sweep around it at the rate of ten times each second, though it is only within the last few years that Professor Wheatstone thought of sending tidings on its wings; and, "doubtless, the cabinets still unlocked contain secrets as wonderful and as profitable as these, while the language of Providence is, 'Be diligent and be at peace among yourselves,' and the doors which have defied the spell of the sorcerer, and the battle-axe of the warrior, will open to the prayer of harmonious industry."

God has virtually cast our lot in well favoured times: let us show our gratitude by living to good purpose; and, remembering that railways, and telegraphs, and steam printed books, the inventions and discoveries we have enumerated, and numberless others, are the good gifts of God, let us not neglect our opportunities. As God has given us intellects, let us use them for his service and in his glory—as he has given us swift transit, let us run to and fro, and increase the knowledge of Himself, as—

> "Every science, power, or art,
> Which tends to foster in the heart
> Knowledge of Nature's laws;
> Must, sanctified by grace divine,
> Precept on precept, line on line,
> Exalt the great First Cause."

Ought not our minds be awakened to devotional feeling in contemplating the variety of the works of the Creator? When we behold the ingenious devices of the intellect and genius of man in developing their wonders, should we not always refer to that Infinite Wisdom, through whose beneficence we are permitted to enjoy knowledge? In becoming wiser, should we not also become better? ought we not to rise at once in the scale of intellectual and moral excellence? ought not our increased sagacity be subservient to a more exalted faith, and, in proportion as the veil becomes thinner through which we see the causes of things, ought we not admire more and more the brightness of the Divine light by which they are rendered visible?

We are taught that man was created in the image of God; he made him both upright and intelligent; he endowed him with goodness, greatness, and genius. By his fall he lost a

large amount of these attributes; but even in his present ruinous condition he exhibits, by many monumental relics, the primitive greatness of his nature. Any dim instincts of devotion, any traces of benevolent affection, which lingers in his nature, are relics of his first estate, of the original greatness for which he was destined. To get more knowledge, he disobeyed; but the tree of knowledge is grafted upon the tree of life, and "that fruit which brought death into the world and all our woe," budding on an immortal stock, becomes the fruit of the promise of immortality.

If this little globe has been so modified by its inhabitants, doubtless, in other systems, beings of a superior nature, under the influence of a Divine will, may act nobler parts. When man, ruined as he is, is capable of the inventions we have enumerated—and we know, from the sacred writings, that there are intelligences of a higher nature than man—no doubt those myriads of stars, dotting the canopy around us, are filled with high and glorious intelligences, all fulfilling their Creator's will. And will this speck in the planetary system, this drop in the ocean compared to the universe of God, be the only disobedient realm of his mighty empire? No!

> "Forbid it, truth; forbid it, love—
> The faithless thought untold should perish—
> Forbid it, all we hope above,
> And all on earth we know and cherish."

God has given his Holy Word to be a lamp to our feet and a light to our path, to point out the path of duty and the way of peace. The study of science and useful knowledge is good, but an acquaintance with the Bible is better. The

character of God is but dimly shown in the works of nature, in comparison to all the brightness of the Divine perfection shown in the works of grace. If the advantages resulting from the study of science, and all the triumphs of genius we have enumerated, be contrasted with those derived from the knowledge of the Bible, we cannot, for a moment, hesitate in accounting religion the better part which shall not be taken away. But these pursuits should not be contrasted; they ought rather be combined. Creation and Redemption have one common Author, and the study of the one can never be inconsistent with a regard for the other. Let the intellect, then, be expanded; let the mental faculties be enlarged to their fullest dimensions; but let the heart be stored with Scriptural principles to guide the expanded intellect aright.

In conclusion—one of the most devoted students of modern times has left us a saying which it would be well for us wisely to use—"I can truly affirm," says he, "that my studies have been profitable and availing to me, only in as far as I have endeavoured to use my other knowledge as a glass, enabling me to receive more light, in a wider field of vision, from the Word of God;" and truly so it is. It is there we will get the knowledge that maketh wise unto salvation—no associations are profitable if not guided by its counsels, and strengthened by its precepts—all knowledge is dark if not illumined by the Book which is a lamp to our feet and a light to our path. We are told that the world by wisdom knew not God. It is not worldly wisdom or scientific knowledge that will show us our path. The time will come when human learning will prove utterly vain, when science shall vanish, and the very elements about which it is conversant shall melt in the flames; but, amid "the wreck

of matter and the crush of worlds," the Word of the Lord shall endure, when this world and its triumphs of genius shall have passed away. Let us keep, therefore, to this Word, and we are on that highway on which the wayfaring man, though a fool, shall not err. Here we are in a state of infancy and ignorance—this is the night-time of sin and darkness—but of that glorious habitation which Jesus has opened to all believers it is emphatically said, "There shall be no night there, and they need no candle, neither light of the sun, for the Lord God giveth them light, and they shall reign for ever and ever."

Members of the St. Mary's Young Men's Christian Association, go forward with renewed exertions in your brotherly endeavours. It is only now the grey dawn of the morning—we are only on the vestibule of life's vast theatre, which yet is shut; the eye of the mind cannot yet penetrate the thick veil which conceals the naked majesty of truth; but—

"There is a fount about to stream,
There is a light about to gleam,
And the darkness now is changing into grey,
But our earnest must not slacken into play—
Men of thought and men of action,
Clear the way.

"Aid the dawning, tongue and pen,
Aid it, hopes of honest men,
Aid it, paper, aid it type,
Aid it, for the hour is ripe.
Men of thought and men of action,
Clear the way."

Dublin: Robert Marchbank, Printer, 13, Stafford-street.